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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,625

09/21/2006

Satoshi Hoshi

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EXAMINER

EOFF, ANCA

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

06/17/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,625	<b>Applicant(s)</b> HOSHI ET AL.	
	<b>Examiner</b> ANCA EOFF	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 12 and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 12 and 14-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/10/2009</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-4, 12 and 14-16 are pending. Claims 5-11 and 13 have been canceled.
2. The foreign priority documents JP 2004-086216 filed on March 24, 2004, JP 2004-086217 filed on March 24, 2004 and JP 2004-089828 filed on March 25, 2004 were received and acknowledged. However, in order to benefit of the earlier filing dates, certified English translations are required.

### ***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 10, 2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-4 and 12 are rejected under 35 U.S.C. 103(a) as being obvious over Sugasaki et al. (US Pg-Pub 2003/0207204) in view of Makino et al. (US Pg-Pub 2005/0074692) and in further view of Sunichi et al. (JP 2003-223007).

The applied reference Makino et al. (US Pg-Pub 2005/0074692) has common inventors with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

With regard to claim 1, Sugasaki et al. disclose a photosensitive composition specially suited to fabricate a lithographic printing plate precursor, said composition comprising:

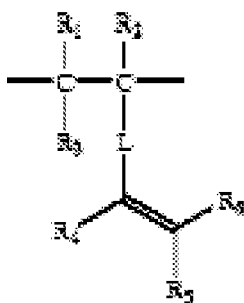
- a linear organic polymer as a binder (par.0069), equivalent to the component (C) of the instant application;
- a polymerizable compound (monomer) (par.0073), equivalent to the component (B) of the instant application, and
- a polymerization initiator (par.0083), equivalent to the component (A) of the instant application.

Sugasaki et al. further disclose that for a lithographic printing plate, the photosensitive layer is desirably formed on a support having a treated surface (par.0322-0323).

However, Sugasaki et al. fail to disclose the undercoat of the instant application.

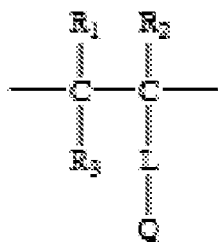
Makino et al. teach a lithographic printing plate precursor comprising a support (par.0071), an image-recording layer (par.0071), and an undercoat layer (interlayer) disposed between the support and the image forming layer (par.0125), wherein said undercoat layer comprises a polymer having an unit (a1) containing at least one ethylenically unsaturated bond and an unit (a2) containing at least one functional group interacting with the surface of the support (par.071 and par. 0125).

The unit (a1) may be represented by the formula (I):



(I) (formula (A1) in par.0074), wherein  $R_1$  to  $R_3$  may be a hydrogen atom, an alkyl group with 1 to 6 carbon atoms or a halogen atom (par.0075),  $R_4$  to  $R_6$  each independently represent a hydrogen atom, an alkyl group having 1 to 6 carbon atoms, a halogen atom, an acyl group or an acyloxy group and L is a bivalent connecting group selected from the group consisting of  $-\text{CO}-$ ,  $-\text{O}-$ ,  $-\text{NH}-$ , bivalent aliphatic group, bivalent aromatic group and combinations thereof (par.0075).

The unit (a2) may be represented by the formula (II):



(II) (formula (A2) in par.0101), wherein  $R_1$  to  $R_3$  may be a hydrogen atom, an alkyl group with 1 to 6 carbon atoms or a halogen atom (par.0075),  $R_4$  to  $R_6$  each independently represent a hydrogen atom, an alkyl group having 1 to 6 carbon atoms, a halogen atom, an acyl group or an acyloxy group and L is a bivalent connecting group selected from the group consisting of  $-\text{CO}-$ ,  $-\text{O}-$ ,  $-\text{NH}-$ , bivalent aliphatic group, bivalent aromatic group and combinations thereof and Q represents a group interacting with the surface of the support (par.0075 and par.0102).

The units (a1) and (a2) of Makino are equivalent to the units (A1) and (A2) of the instant application.

Makino et al. specifically teach a methanol solution of a copolymer is used for applying an undercoat layer (see Example 1 in par.0295). This meets the limitation of

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the instant application for “an undercoat layer that consists essentially of a polymer having repeating units of the formula (A1) and (A2) of the instant application”.

Makino et al. further disclose that the undercoat layer may be applied in an amount of  $10 \text{ mg/m}^2$  (see Example 1 in par.0295). This amount is within the range of the instant application.

Makino et al. teach that the lithographic printing plate with an undercoat layer attains excellent thin line reproducibility and printing durability as compared with the case in which the printing plates having no undercoat layer are used (par.0323).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an undercoat layer, as taught by Makino et al. for the printing plate of Sugasaki et al., in order to take advantage of the properties of the undercoat layer (leads to excellent thin line reproducibility and printing durability).

Sugasaki et al. further disclose that the photosensitive composition may be exposed with lasers, such as Ar ion laser (364 or 351 nm), Kr ion laser (356 nm or 351 nm) and He-Cd laser (325 nm) (par.0331), which shows that the composition has sensitivity for radiation of the above-mentioned wavelengths.

Sugasaki et al. further disclose that by choosing highly water-soluble materials for the photosensitive layer, the plate precursor can be processed by on-press exposure and development (par.0334), which is equivalent to the development with ink and/or fountain solution of the instant application.

However, Sugasaki et al. and Makino fail to disclose that the exposure is performed with a one-pixel drawing time of 1 millisecond or less.

Sunichi et al. disclose a method of making a printing plate (par.0001), the method comprising an exposure step using a DMD (digital mirror device) as aligner (par.0004, par.0017) and radiation with a wavelength between 350 nm and 450 nm (par.0017). The exposure time per pixel is between 1 and 100 microseconds (par.0018).

A plate that shows good properties regarding the handling during the production process and good printing durability can be obtained (par.0007).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to perform the exposure in the process of Sugasaki modified by Makino with a one-pixel exposure/drawing time of 1-100 microseconds as disclosed by Sunichi et al., with a reasonable expectation of success.

The exposure/drawing time of 1-100 microseconds is within the range of 1 millisecond or less of the instant application.

With regard to claims 2 and 4, Sugasaki et al. disclose that the printing plate can be exposed with lasers, such as a combination of Nd: YAG and two SHG crystals (355 nm) (par.0331) and the exposure mechanism includes an internal drum system (par.0334).

With regard to claim 3, Sunichi et al. disclose that the exposure may be performed with a DMD (digital mirror device) as aligner (par.0004, par.0017) and radiation with a wavelength between 350 nm and 450 nm (par.0017).

Sunichi et al. do not specifically disclose a 405-nm or a 375-nm wavelength semiconductor laser. However, it would have been obvious to one of ordinary skill in the



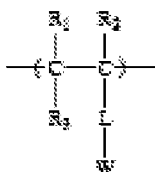
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art to use such a laser, as being in the range of wavelengths of Sunichi et al. (350-450 nm).

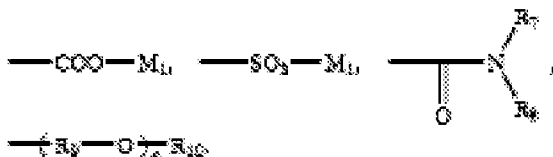
With regard to claim 12, Sugasaki et al. further disclose that the printing plate precursor can be processed by on -press exposure and development (par.0334), which means that the development is done with printing ink and/or fountain solution and then printing is performed.

With regard to claim 14, Sugasaki et al. disclose that the printing plate can be exposed with lasers, such as a combination of Nd: YAG and two SHG crystals (355 nm) (par.0331).

With regard to claim 15, Makino et al. further disclose that the copolymer of the undercoat layer may comprise unit (a3) (par.0111), wherein said unit (a3) is represented by the formula (III):



(III) (formula (A3) in par.0111), wherein W may be one of the following groups:



(par.0112), wherein  $M_1$  may be a hydrogen atom, a metal atom or ammonium (par.0104 and par.0113),  $R_7$  and  $R_8$  each independently represent a hydrogen atom or a

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linear or branched alkyl group with 1-6 carbon atoms (par.0114),  $R_9$  represents a linear or branched alkylene with 1-6 carbon atoms (par.0115),  $R_{10}$  represents a hydrogen atom or an alkyl group having 1-12 carbon atoms (par.0116) and  $n$  is an integer between 1 and 100 (par.0117).

The unit (a3) of Makino et al. is equivalent to the unit (A3) of the instant application.

With regard to claim 16, Makino et al. teach that the group Q of the unit (a2) of formula (II) above may be a  $-PO_3H_2$  group (phosphonic acid) (par.0103).

### ***Response to Arguments***

6. In regard to the applicant's arguments, see pages of the Remarks filed on April 10, 2009, the examiner would like to note.

- The rejection of claims 5, 7 and 13 under 35 USC 102(b) over Takahashi et al. (US Pg-Pub 2003/0186162) is moot in view of the cancellation of claims 5, 7 and 13.

- The rejection of claims 1-2, 4 and 12 under 35 USC 103(a) over Sugasaki et al. (US Pg-Pub 2003/0207204) in view of Mitsumoto et al. (US Pg-Pub 2004/0197701) and in further view of Sunichi et al. (JP 200007) is withdrawn following applicant's amendment to claims 1 and 12.

- The rejection of claim 3 under 35 USC 103(a) over Sugasaki et al. (US Pg-Pub 2003/0207204) in view of Mitsumoto et al. (US Pg-Pub 2004/0197701) and Sunichi et al. (JP 2003-223007) and in further view of Fujii et al. (US Pg-Pub 2002/0180944) is withdrawn following applicant's amendment to claim 1.

- The rejection of claim 8 under 35 USC 103(a) over Takahashi et al. (US Pg-Pub 2003/0186162) in view of Saeva et al. (US Patent 5,141,969) is moot in view of the cancellation of claim 8.

- The rejection of claim 14 under 35 USC 103(a) over Takahashi et al. (US Pg-Pub 2003/0186162) in view of Furukawa et al. (US Pg-Pub 2001/0018164) is withdrawn following the amendment to claim 14.

7. Applicant's arguments with respect to claims 1-4, 12 and 14-16 filed on April 10, 2009 have been considered but are moot in view of applicant's amendments and the new grounds of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANCA EOFF whose telephone number is (571)272-9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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/A. E./

Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795